MARKED-UP COPY OF AMENDED CLAIMS

10. (Amended) A microelectronic element ~~as claimed in claim 9~~ comprising:

(a) a body defining a front surface, said body having pads exposed at said front surface, wherein said body is a unitary semiconductor wafer including a plurality of semiconductor chips; and

(b) flexible leads having pad ends and tip ends, said pad ends of said flexible leads being connected to said pads, said tip ends of at least some of said flexible leads projecting over said front surface of said body, at least some of said flexible leads being spaced apart from said front surface, said tip ends of said flexible leads being independently movable with respect to said body, each of said at least some of said flexible leads being curved in a plane parallel to said front surface of said body;

wherein each said semiconductor chip comprises a central region and a peripheral region surrounding said central region and wherein at least some of said pads are disposed in said peripheral region of each said semiconductor chip, said tip ends of said at least some of said flexible leads extending inwardly over said central region of each said semiconductor chip.

11. (Amended) A microelectronic element ~~as claimed in claim 1~~ comprising:

(a) a body defining a front surface, said body having pads exposed at said front surface, wherein said body is a wafer probe card; and

(b) flexible leads having pad ends and tip ends, said pad ends of said flexible leads being connected to said pads, said tip ends of at least some of said flexible leads projecting over said front surface of said body, at least some of said flexible leads being spaced apart from said front surface, said tip ends of said flexible leads being independently movable with respect to said body, each of said at least some of said flexible

leads being curved in a plane parallel to said front surface of said body.

12. (Amended) A microelectronic element comprising:

(a) a body defining a front surface and including at least one semiconductor chip, said semiconductor chip ~~body~~ having pads exposed at said front surface;

(b) flexible leads having pad ends and tip ends, said pad ends of said flexible leads being connected to said pads, said tip ends of at least some of said flexible leads projecting over said front surface of said body, at least some of said flexible leads being spaced apart from said front surface, said tip ends of said flexible leads being independently movable with respect to said body, each of said at least some of said flexible leads including an elongated, strip-like main region having substantially flat main surfaces, a first main surface facing toward said body, a second main surface facing away from said body, each said elongated, strip-like main region having a first portion spaced apart from said front surface by a first distance and a second portion spaced apart from said front surface by a second distance, said first distance being greater than said second distance, said first portion comprising said tip end and said second portion comprising said pad end.

14. (Amended) A microelectronic element as claimed in claim 12 ~~13~~ wherein ~~each~~ said semiconductor chip comprises a central region and a peripheral region surrounding said central region and wherein at least some of said pads are disposed in said peripheral region of each said semiconductor chip, said tip ends of said at least some of said flexible leads extending inwardly over said central region of each said semiconductor chip.

15. (Amended) A microelectronic element as claimed in claim 14 wherein said body is a unitary semiconductor wafer including a plurality of said semiconductor chips.

REMARKS

Reconsideration and allowance of this Application are respectfully requested. Claims 1, 8, 9, 13 and 16 have been cancelled. Claims 1, 10-12, and 14-15 remain in this Application and, as amended herein, are submitted for the Examiner's consideration.

In the Office Action, claims 12-16 were rejected under 35 U.S.C. § 112, second paragraph. Specifically the Examiner contends that it is unclear as to what surfaces of the "tip end" or "first portion" is being used to measure the "first distance" from the "tip end" or "first portion" to the "front surface". Claim 12 says that the first and second portions of the "main region" are "spaced apart from said front surface" by the first and second distances referred to. The only reasonable understanding of the claim is that the distances are the magnitudes of the spaces between the recited portions of the main region and the first surface of the chip. The only reasonable way to measure such a space is with reference to the surface of the main portion nearest to the first surface of the chip, i.e., the "first surface." Moreover, claim 12 defines the "first portion" as a portion of an elongated, *strip-like* main region of a flexible lead that includes the "tip end" of the flexible lead. Because the main region of the flexible lead is strip-like, it does not matter whether one measures the distance from the front surface of the semiconductor chip to the first main surface of the first portion of the strip-like main region or the distance from the front surface of the semiconductor chip to the second main surface of the first portion of the strip-like main region so long as one uses an internally consistent measurement method, picking the same surface of the strip for both measurements, the result will be the same.

The Examiner also contends that it is unclear as to what surfaces of the "pad end" or "second portion" is being used to measure the "second distance" from the "pad end" or "second portion" to the "front surface". Claim 12, however, defines the

"second portion" as a portion of the elongated, strip-like main region of the flexible lead that includes the "pad end" of the flexible lead. As noted above, the main region of the flexible lead is strip-like so that the distance from the front surface of the semiconductor chip to the first main surface of the second portion of the strip-like main region is substantially the same as the distance from the front surface of the second portion of semiconductor chip to the second main surface of the strip-like main region. Thus, the "second distance" is the distance from the front surface of the semiconductor chip to either the first or second main surface of the second portion of the elongated, strip-like main region.

It follows that the claims are in full compliance with the requirements of 35 U.S.C. § 112.

Turning now to the art rejections, claims 12-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Honda (Japanese Publication No. 57-121255). It is submitted, however, that the claims are patentably distinguishable over Honda.

The Honda publication shows, in Figs. 3 and 4, an integrated circuit chip 1 with flexible film wire connection parts 8A, 8B having metal bump electrodes 9A, 9B formed at their respective free ends. Honda shows, however, shows the main region of the film wire connection parts curving inward *toward* the main body so that the distance from its tip end to the front surface of the chip body is *less than* the distance from its pad end to the chip body. The reference therefore does not suggest a first portion, which includes a tip end, spaced apart from a front surface by first distance and a second portion, which includes a pad end, spaced apart from the front surface by a second distance where the first distance is *greater than* the second distance. Honda does not suggest:

> flexible leads having pad ends and tip ends, said pad ends of said flexible leads being connected to said pads, said tip ends of at least some of said flexible leads projecting

> over said front surface of said body, at least some of said flexible leads being spaced apart from said front surface, said tip ends of said flexible leads being independently movable with respect to said body, each of said at least some of said flexible leads including an elongated, strip-like main region having substantially flat main surfaces, a first main surface facing toward said body, a second main surface facing away from said body, each said elongated, strip-like main region having a first portion spaced apart from said front surface by a first distance and a second portion spaced apart from said front surface by a second distance, said first distance being greater than said second distance, said first portion comprising said tip end and said second portion comprising said pad end

as called for in claim 12.

It follows that Honda does not suggest the combination called for in claim 12 and does not anticipate the claim.

Claim 14 depends from claim 12 and further defines and limits the invention set out in the independent claim as well as calls for additional limitations. It follows that claim 14 likewise defines a combination that is patentably distinguishable over Honda.

The Examiner also rejected claims 12-16 under 35 U.S.C. § 102(e) as being anticipated by Dozier (U.S. Patent No. 5,772,451). However, it is submitted that the claims are patentably distinguishable over Dozier.

The Dozier patent shows, in Fig. 2C, an embodiment 230 having a plurality of wire core interconnection elements 231, ..., 236 mounted on the surface of a *probe card insert* 240, namely a subassembly mounted to a *probe card*. Dozier does not show a semiconductor chip. Dozier also illustrates embodiments of a surface mount *land grid array (LGA) socket* for mounting to a *printed circuit board (PCB) substrate* and surface mount *ball grid*

array (BGA) sockets for mounting to a *printed circuit board.* (See Figs. 3-5; col. 22, lns. 20-30; col. 29, lns. 52-60; and col. 35, lns. 30-31). Dozier is not at all concerned with a body including at least one semiconductor chip. Dozier therefore does not suggest:

> a body defining a front surface and including at least one semiconductor chip, said semiconductor chip having pads exposed at said front surface

as defined in claim 12.

It follows that Dozier does not suggest the combination set out in claim 12 and does not anticipate the claim.

Claims 13 and 15 depend from claim 12 and each further defines and limits the invention set out in the independent claim as well as calls for additional limitations. It follows that each of claims 13 and 15 likewise defines a combination as patentably distinguishable over Dozier.

Accordingly, the rejection of claims 12, 14, and 15 under 35 U.S.C. § 102 is respectfully requested.

Claims 1 and 8-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dozier in view Khandros (U.S. Patent No. 5,148,266). Claims 1, 8 and 9 are cancelled, and claims 10 and 11 have been rewritten in independent form to include the limitations previously set out in the parent claims. It is submitted that the claims are patentably distinguishable over the references.

The Dozier patent, as noted above, describes a plurality of *wire core* interconnection elements 231, ..., 236 mounted on the surface of a probe card insert 240. The interconnection elements are *wire bonds* rather than flexible leads that include *an elongated, strip-like main region.* The Khandros patent shows, in Fig. 12, an interposer 242 with terminals 248 having leads 250

that are curved in directions parallel to the face 246 of the interposer 242 and parallel to the front face 238 of a chip 228. (See col. 13, lns. 22-27).

Though the Examiner acknowledges that Dozier does not explicitly state that the leads shown therein can be curved in a plane parallel to the front surface of the body 240, he contends that it would be obvious to curve the leads shown in Fig. 2C of Dozier in the manner described in Khandros. Dozier, however, shows *wire core elements*. The Examiner has not pointed out anything in the art showing that Dozier's wire core elements could be readily curved in a plane above the surface of a chip. Moreover, nothing in the art has been pointed out as showing why it would be desirable to curve the wire core elements in the manner of Dozier's structure. There is no incentive for a person of ordinary skill in the art to modify Dozier's *wire bond* interconnection elements in the manner shown in Khandros.

It follows that the postulated combination of Dozier and Khandros is improper and cannot support the rejection of claims 1.

Accordingly, withdrawal of the rejection of claims 10-11 under 35 U.S.C. § 103 is respectfully requested.

The Examiner also rejected claims 1, 8 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Honda in view of Khandros. Claims 1, 8 and 9 are cancelled.

In view of the foregoing remarks and amendments herein, it is submitted that the Examiner's rejection of the claims under 35 U.S.C. §§ 102, 103, and 112 are overcome. It is therefore submitted that the case is in condition for allowance, and such actions is respectfully requested. If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that the Examiner telephone Applicant's attorney at (908) 654-5000 in order to overcome any additional objections which the Examiner might have.

Application No.: 09/785,104 Docket No.: TESSERA 3.0-188 DIV

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

By _____

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